

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

Listing of Claims

1. (Currently amended) A heat-resistant Ti alloy material excellent in high-temperature corrosion resistance and oxidation resistance, comprising:
 - a base made of a heat-resistant Ti alloy; and
 - a surface layer formed on the surface of said base, said surface layer having a multilayer structure which includes an inner layer and an outer layer, said inner layer having three coexistent phases consisting of a β phase, a γ phase and a Laves phase in the phase diagram of a Ti-Al-Cr based alloy, said outer layer being made of an Al-Ti-Cr based alloy having an Al concentration of 50 atomic % or more.
2. (Original) The heat-resistant Ti alloy material as defined in claim 1, wherein said outer layer includes at least one phase selected from the group consisting of a Ti (Al, Cr)₃ phase, a Ti (Al, Cr)₂ phase and a τ phase.
3. (Original) The heat-resistant Ti alloy material as defined in claim 2, which includes a Cr diffusion layer interposed between said base and said inner layer.

4. (Currently amended) A method for producing the heat-resistant Ti alloy material ~~as defined in either one of claims 1 to 3~~, comprising:

subjecting a substrate made of a heat-resistant Ti alloy to a Cr diffusion treatment to diffuse chromium into said substrate at a temperature within a β single-phase region in the phase diagram of a Ti-Al-Cr based alloy;

precipitating a γ phase and a Laves phase from the β phase during a cooling process to form the inner layer with three coexistent phases consisting of the β , γ and Laves phases; and

then subjecting said obtained product to an Al diffusion treatment to diffuse aluminum into said product so as to form the outer layer of an Al-Ti-Cr based alloy having an Al concentration of 50 atomic % or more.

5. (Original) The method as defined in claim 4, which includes performing a heat treatment during said cooling process.

6. (Original) The method as defined in claim 4, wherein said Cr diffusion treatment is performed at a temperature of 1300°C or more within the β single-phase region, and said Al diffusion treatment is performed at a temperature of 1200°C or less.